

**Union Calendar No. 49**

109TH CONGRESS  
1ST SESSION

**H. R. 250**

**[Report No. 109–92]**

To establish an interagency committee to coordinate Federal manufacturing research and development efforts in manufacturing, strengthen existing programs to assist manufacturing innovation and education, and expand outreach programs for small and medium-sized manufacturers, and for other purposes.

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**IN THE HOUSE OF REPRESENTATIVES**

JANUARY 6, 2005

Mr. EHLERS introduced the following bill; which was referred to the  
Committee on Science

MAY 23, 2005

Additional sponsors: Mr. UPTON and Mr. GILLMOR

MAY 23, 2005

Reported with an amendment, committed to the Committee of the Whole  
House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in *italic*]

[For text of introduced bill, see copy of bill as introduced on January 6, 2005]

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**A BILL**

To establish an interagency committee to coordinate Federal manufacturing research and development efforts in manufacturing, strengthen existing programs to assist manufacturing innovation and education, and expand outreach

programs for small and medium-sized manufacturers,  
and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       *This Act may be cited as the “Manufacturing Tech-*  
5       *nology Competitiveness Act of 2005”.*

6       **SEC. 2. INTERAGENCY COMMITTEE AND ADVISORY COM-**  
7       **MITTEE.**

8       *(a) INTERAGENCY COMMITTEE.—*

9               *(1) ESTABLISHMENT.—The President shall estab-*  
10       *lish or designate an interagency committee on manu-*  
11       *facturing research and development, which shall in-*  
12       *clude representatives from the Office of Science and*  
13       *Technology Policy, the National Institute of Stand-*  
14       *ards and Technology, the Science and Technology Di-*  
15       *rectorate of the Department of Homeland Security,*  
16       *the National Science Foundation, the Department of*  
17       *Energy, and any other agency that the President may*  
18       *designate. The Chair of the Interagency Committee*  
19       *shall be designated by the Director of the Office of*  
20       *Science and Technology Policy.*

21               *(2) FUNCTIONS.—The Interagency Committee*  
22       *shall be responsible for the planning and coordination*  
23       *of Federal efforts in manufacturing research and de-*  
24       *velopment through—*

1           (A) establishing goals and priorities for  
2           manufacturing research and development, in-  
3           cluding the strengthening of United States man-  
4           ufacturing through the support and coordination  
5           of Federal manufacturing research, development,  
6           technology transfer, standards, and technical  
7           training;

8           (B) developing, within 6 months after the  
9           date of enactment of this Act, and updating  
10          every 3 years for delivery with the President's  
11          annual budget request to Congress, a strategic  
12          plan, to be transmitted to the Committee on  
13          Science of the House of Representatives and the  
14          Committee on Commerce, Science, and Transpor-  
15          tation of the Senate, for manufacturing research  
16          and development that includes an analysis of the  
17          research, development, technology transfer, stand-  
18          ards, technical training, and integration needs of  
19          the manufacturing sector important to ensuring  
20          and maintaining United States competitiveness;

21          (C) proposing an annual coordinated inter-  
22          agency budget for manufacturing research and  
23          development to the Office of Management and  
24          Budget; and

1           (D) developing and transmitting to Con-  
2           gress an annual report on the Federal programs  
3           involved in manufacturing research, develop-  
4           ment, technical training, standards, and integra-  
5           tion, their funding levels, and their impacts on  
6           United States manufacturing competitiveness,  
7           including the identification and analysis of the  
8           manufacturing research and development prob-  
9           lems that require additional attention, and rec-  
10          ommendations of how Federal programs should  
11          address those problems.

12          (3) *RECOMMENDATIONS AND VIEWS.*—In car-  
13          rying out its functions under paragraph (2), the  
14          Interagency Committee shall consider the rec-  
15          ommendations of the Advisory Committee and the  
16          views of academic, State, industry, and other entities  
17          involved in manufacturing research and development.

18          (b) *ADVISORY COMMITTEE.*—

19          (1) *ESTABLISHMENT.*—Not later than 6 months  
20          after the date of enactment of this Act, the President  
21          shall establish or designate an advisory committee to  
22          provide advice and information to the Interagency  
23          Committee.

1           (2) *RECOMMENDATIONS.*—*The Advisory Com-*  
2           *mittee shall assist the Interagency Committee by pro-*  
3           *viding it with recommendations on—*

4                     (A) *the goals and priorities for manufac-*  
5                     *turing research and development;*

6                     (B) *the strategic plan, including proposals*  
7                     *on how to strengthen research and development*  
8                     *to help manufacturing; and*

9                     (C) *other issues it considers appropriate.*

10          (3) *REPORT.*—*The Advisory Committee shall*  
11          *provide an annual report to the Interagency Com-*  
12          *mittee and the Congress that shall assess—*

13                     (A) *the progress made in implementing the*  
14                     *strategic plan and challenges to this progress;*

15                     (B) *the effectiveness of activities under the*  
16                     *strategic plan in improving United States man-*  
17                     *ufacturing competitiveness;*

18                     (C) *the need to revise the goals and prior-*  
19                     *ities established by the Interagency Committee;*  
20                     *and*

21                     (D) *new and emerging problems and oppor-*  
22                     *tunities affecting the manufacturing research*  
23                     *community, research infrastructure, and the*  
24                     *measurement and statistical analysis of manu-*

1           *facturing that may need to be considered by the*  
 2           *Interagency Committee.*

3           (4) *FEDERAL ADVISORY COMMITTEE ACT APPLI-*  
 4           *CATION.—Section 14 of the Federal Advisory Com-*  
 5           *mittee Act shall not apply to the Advisory Committee.*

6 **SEC. 3. COLLABORATIVE MANUFACTURING RESEARCH**  
 7           **PILOT GRANTS.**

8           *The National Institute of Standards and Technology*  
 9           *Act is amended—*

10           (1) *by redesignating the first section 32 (15*  
 11           *U.S.C. 271 note) as section 34 and moving it to the*  
 12           *end of the Act; and*

13           (2) *by inserting before the section moved by*  
 14           *paragraph (1) the following new section:*

15 **“SEC. 33. COLLABORATIVE MANUFACTURING RESEARCH**  
 16           **PILOT GRANTS.**

17           “(a) *AUTHORITY.—*

18           “(1) *ESTABLISHMENT.—The Director shall estab-*  
 19           *lish a pilot program of awards to partnerships among*  
 20           *participants described in paragraph (2) for the pur-*  
 21           *poses described in paragraph (3). Awards shall be*  
 22           *made on a peer-reviewed, competitive basis.*

23           “(2) *PARTICIPANTS.—Such partnerships shall*  
 24           *include at least—*

1                   “(A) 1 manufacturing industry partner;  
2                   and

3                   “(B) 1 nonindustry partner.

4                   “(3) *PURPOSE.*—The purpose of the program  
5                   under this section is to foster cost-shared collabora-  
6                   tions among firms, educational institutions, research  
7                   institutions, State agencies, and nonprofit organiza-  
8                   tions to encourage the development of innovative,  
9                   multidisciplinary manufacturing technologies. Part-  
10                  nerships receiving awards under this section shall  
11                  conduct applied research to develop new manufac-  
12                  turing processes, techniques, or materials that would  
13                  contribute to improved performance, productivity,  
14                  and competitiveness of United States manufacturing,  
15                  and build lasting alliances among collaborators.

16                  “(b) *PROGRAM CONTRIBUTION.*—Awards under this  
17                  section shall provide for not more than one-third of the costs  
18                  of a partnership. Not more than an additional one-third  
19                  of such costs may be obtained directly or indirectly from  
20                  other Federal sources.

21                  “(c) *APPLICATIONS.*—Applications for awards under  
22                  this section shall be submitted in such manner, at such  
23                  time, and containing such information as the Director shall  
24                  require. Such applications shall describe at a minimum—

1           “(1) how each partner will participate in devel-  
2           oping and carrying out the research agenda of the  
3           partnership;

4           “(2) the research that the grant would fund; and

5           “(3) how the research to be funded with the  
6           award would contribute to improved performance,  
7           productivity, and competitiveness of the United States  
8           manufacturing industry.

9           “(d) *SELECTION CRITERIA.*—In selecting applications  
10          for awards under this section, the Director shall consider  
11          at a minimum—

12           “(1) the degree to which projects will have a  
13           broad impact on manufacturing;

14           “(2) the novelty and scientific and technical  
15           merit of the proposed projects; and

16           “(3) the demonstrated capabilities of the appli-  
17           cants to successfully carry out the proposed research.

18           “(e) *DISTRIBUTION.*—In selecting applications under  
19          this section the Director shall ensure, to the extent prac-  
20          ticable, a distribution of overall awards among a variety  
21          of manufacturing industry sectors and a range of firm sizes.

22           “(f) *DURATION.*—In carrying out this section, the Di-  
23          rector shall run a single pilot competition to solicit and  
24          make awards. Each award shall be for a 3-year period.”.



1 **SEC. 4. MANUFACTURING FELLOWSHIP PROGRAM.**

2 *Section 18 of the National Institute of Standards and*  
3 *Technology Act (15 U.S.C. 278g–1) is amended—*

4 *(1) by inserting “(a) IN GENERAL.—” before*  
5 *“The Director is authorized”; and*

6 *(2) by adding at the end the following new sub-*  
7 *section:*

8 *“(b) MANUFACTURING FELLOWSHIP PROGRAM.—*

9 *“(1) ESTABLISHMENT.—To promote the develop-*  
10 *ment of a robust research community working at the*  
11 *leading edge of manufacturing sciences, the Director*  
12 *shall establish a program to award—*

13 *“(A) postdoctoral research fellowships at the*  
14 *Institute for research activities related to manu-*  
15 *facturing sciences; and*

16 *“(B) senior research fellowships to estab-*  
17 *lished researchers in industry or at institutions*  
18 *of higher education who wish to pursue studies*  
19 *related to the manufacturing sciences at the In-*  
20 *stitute.*

21 *“(2) APPLICATIONS.—To be eligible for an award*  
22 *under this subsection, an individual shall submit an*  
23 *application to the Director at such time, in such*  
24 *manner, and containing such information as the Di-*  
25 *rector may require.*

1           “(3) *STIPEND LEVELS.*—Under this section, the  
 2           *Director shall provide stipends for postdoctoral re-*  
 3           *search fellowships at a level consistent with the Na-*  
 4           *tional Institute of Standards and Technology*  
 5           *Postdoctoral Research Fellowship Program, and sen-*  
 6           *ior research fellowships at levels consistent with sup-*  
 7           *port for a faculty member in a sabbatical position.”.*

8   **SEC. 5. MANUFACTURING EXTENSION.**

9           (a) *MANUFACTURING CENTER EVALUATION.*—Section  
 10   25(c)(5) of the National Institute of Standards and Tech-  
 11   nology Act (15 U.S.C. 278k(c)(5)) is amended by inserting  
 12   “A Center that has not received a positive evaluation by  
 13   the evaluation panel shall be notified by the panel of the  
 14   deficiencies in its performance and may be placed on proba-  
 15   tion for one year, after which time the panel may reevaluate  
 16   the Center. If the Center has not addressed the deficiencies  
 17   identified by the panel, or shown a significant improvement  
 18   in its performance, the Director may conduct a new com-  
 19   petition to select an operator for the Center or may close  
 20   the Center.” after “sixth year at declining levels.”.

21           (b) *FEDERAL SHARE.*—Strike section 25(d) of the Na-  
 22   tional Institute of Standards and Technology Act (15  
 23   U.S.C. 278k(d)) and insert the following:

24           “(d) *ACCEPTANCE OF FUNDS.*—In addition to such  
 25   sums as may be appropriated to the Secretary and Director

1 *to operate the Centers program, the Secretary and Director*  
 2 *also may accept funds from other Federal departments and*  
 3 *agencies and under section 2(c)(7) from the private sector*  
 4 *for the purpose of strengthening United States manufac-*  
 5 *turing. Such funds, if allocated to a Center or Centers, shall*  
 6 *not be considered in the calculation of the Federal share*  
 7 *of capital and annual operating and maintenance costs*  
 8 *under subsection (c).”.*

9 *(c) MANUFACTURING EXTENSION CENTER COMPETI-*  
 10 *TIVE GRANT PROGRAM.—Section 25 of the National Insti-*  
 11 *tute of Standards and Technology Act (15 U.S.C. 278k) is*  
 12 *amended by adding at the end the following new sub-*  
 13 *sections:*

14 *“(e) COMPETITIVE GRANT PROGRAM.—*

15 *“(1) ESTABLISHMENT.—The Director shall estab-*  
 16 *lish, within the Manufacturing Extension Partnership*  
 17 *program under this section and section 26 of this Act,*  
 18 *a program of competitive awards among participants*  
 19 *described in paragraph (2) for the purposes described*  
 20 *in paragraph (3).*

21 *“(2) PARTICIPANTS.—Participants receiving*  
 22 *awards under this subsection shall be the Centers, or*  
 23 *a consortium of such Centers.*

24 *“(3) PURPOSE.—The purpose of the program*  
 25 *under this subsection is to develop projects to solve*

1     *new or emerging manufacturing problems as deter-*  
2     *mined by the Director, in consultation with the Di-*  
3     *rector of the Manufacturing Extension Partnership*  
4     *program, the Manufacturing Extension Partnership*  
5     *National Advisory Board, and small and medium-*  
6     *sized manufacturers. One or more themes for the com-*  
7     *petition may be identified, which may vary from year*  
8     *to year, depending on the needs of manufacturers and*  
9     *the success of previous competitions. These themes*  
10    *shall be related to projects associated with manufac-*  
11    *turing extension activities, including supply chain*  
12    *integration and quality management, or extend be-*  
13    *yond these traditional areas.*

14           “(4) *APPLICATIONS.*—*Applications for awards*  
15    *under this subsection shall be submitted in such man-*  
16    *ner, at such time, and containing such information*  
17    *as the Director shall require, in consultation with the*  
18    *Manufacturing Extension Partnership National Advi-*  
19    *sory Board.*

20           “(5) *SELECTION.*—*Awards under this subsection*  
21    *shall be peer reviewed and competitively awarded.*  
22    *The Director shall select proposals to receive*  
23    *awards—*

4 “(B) that will improve the competitiveness  
5 of industries in the region in which the Center  
6 or Centers are located; and

7 “(C) that will contribute to the long-term  
8 economic stability of that region.

9                   “(6) *PROGRAM CONTRIBUTION.*—*Recipients of*  
10                   *awards under this subsection shall not be required to*  
11                   *provide a matching contribution.*

12       “(f) AUDITS.—A center that receives assistance under  
13   this section shall submit annual audits to the Secretary in  
14   accordance with Office of Management and Budget Circular  
15   A-133 and shall make such audits available to the public  
16   on request.”.

17 *SEC. 6. SCIENTIFIC AND TECHNICAL RESEARCH AND SERV.*  
18 *ICES.*

(a) *LABORATORY ACTIVITIES.*—There are authorized to be appropriated to the Secretary of Commerce for the scientific and technical research and services laboratory activities of the National Institute of Standards and Technology—

24 (1) \$426,267,000 for fiscal year 2006, of which—

1           (A) \$50,833,000 shall be for *Electronics and*  
2           *Electrical Engineering;*

3           (B) \$28,023,000 shall be for *Manufacturing*  
4           *Engineering;*

5           (C) \$52,433,000 shall be for *Chemical*  
6           *Science and Technology;*

7           (D) \$46,706,000 shall be for *Physics;*

8           (E) \$33,500,000 shall be for *Material*  
9           *Science and Engineering;*

10          (F) \$24,321,000 shall be for *Building and*  
11          *Fire Research;*

12          (G) \$68,423,000 shall be for *Computer*  
13          *Science and Applied Mathematics;*

14          (H) \$20,134,000 shall be for *Technical As-*  
15          *sistance;*

16          (I) \$48,326,000 shall be for *Research Sup-*  
17          *port Activities;*

18          (J) \$29,369,000 shall be for the *National*  
19          *Institute of Standards and Technology Center for*  
20          *Neutron Research; and*

21          (K) \$18,543,000 shall be for the *National*  
22          *Nanomanufacturing and Nanometrology Facil-*  
23          *ity;*

24          (2) \$447,580,000 for fiscal year 2007; and

25          (3) \$456,979,000 for fiscal year 2008.

1       (b) *MALCOLM BALDRIGE NATIONAL QUALITY AWARD*  
 2 *PROGRAM.*—*There are authorized to be appropriated to the*  
 3 *Secretary of Commerce for the Malcolm Baldrige National*  
 4 *Quality Award program under section 17 of the Stevenson-*  
 5 *Wylder Technology Innovation Act of 1980 (15 U.S.C.*  
 6 *3711a)—*

- 7               (1) \$5,654,000 for fiscal year 2006;  
 8               (2) \$5,795,000 for fiscal year 2007; and  
 9               (3) \$5,939,000 for fiscal year 2008.

10       (c) *CONSTRUCTION AND MAINTENANCE.*—*There are*  
 11 *authorized to be appropriated to the Secretary of Commerce*  
 12 *for construction and maintenance of facilities of the Na-*  
 13 *tional Institute of Standards and Technology—*

- 14               (1) \$58,898,000 for fiscal year 2006;  
 15               (2) \$61,843,000 for fiscal year 2007; and  
 16               (3) \$63,389,000 for fiscal year 2008.

17       (d) *ADVANCED TECHNOLOGY PROGRAM ELIMINATION*  
 18 *REPORT.*—*Not later than 3 months after the date of enact-*  
 19 *ment of this Act, the Secretary shall provide to the Congress*  
 20 *a report detailing the impacts of the possible elimination*  
 21 *of the Advanced Technology Program on the laboratory pro-*  
 22 *grams at the National Institute of Standards Technology.*

23       (e) *LOSS OF FUNDING.*—*At the time of the President's*  
 24 *budget request for fiscal year 2007, the Secretary shall pro-*  
 25 *vide the Congress a report on how the Department of Com-*

merce plans to absorb the loss of Advanced Technology Program funds to the laboratory programs at the National Institute of Standards and Technology, or otherwise mitigate the effects of this loss on its programs and personnel.

**SEC. 7. STANDARDS EDUCATION PROGRAM.**

(a) PROGRAM AUTHORIZED.—(1) As part of the Teacher Science and Technology Enhancement Institute Program, the Director of the National Institute of Standards and Technology shall carry out a Standards Education program to award grants to institutions of higher education to support efforts by such institutions to develop curricula on the role of standards in the fields of engineering, business, science, and economics. The curricula should address topics such as—

- (A) development of technical standards;
- (B) demonstrating conformity to standards;
- (C) intellectual property and antitrust issues;
- (D) standardization as a key element of business strategy;
- (E) survey of organizations that develop standards;
- (F) the standards life cycle;
- (G) case studies in effective standardization;
- (H) managing standardization activities; and



1           (I) managing organizations that develop stand-  
2       ards.

3       (2) Grants shall be awarded under this section on a  
4 competitive, merit-reviewed basis and shall require cost-  
5 sharing from non-Federal sources.

6       (b) *SELECTION PROCESS.*—(1) An institution of high-  
7 er education seeking funding under this section shall submit  
8 an application to the Director at such time, in such man-  
9 ner, and containing such information as the Director may  
10 require. The application shall include at a minimum—

11           (A) a description of the content and schedule for  
12 adoption of the proposed curricula in the courses of  
13 study offered by the applicant; and

14           (B) a description of the source and amount of  
15 cost-sharing to be provided.

16       (2) In evaluating the applications submitted under  
17 paragraph (1) the Director shall consider, at a minimum—

18           (A) the level of commitment demonstrated by the  
19 applicant in carrying out and sustaining lasting cur-  
20 ricula changes in accordance with subsection (a)(1);  
21 and

22           (B) the amount of cost-sharing provided.

23       (c) *AUTHORIZATION OF APPROPRIATIONS.*—There are  
24 authorized to be appropriated to the Secretary of Commerce  
25 for the Teacher Science and Technology Enhancement Insti-

1 *tute program of the National Institute of Standards and*  
 2 *Technology—*

3 *(1) \$773,000 for fiscal year 2006;*

4 *(2) \$796,000 for fiscal year 2007; and*

5 *(3) \$820,000 for fiscal year 2008.*

6 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

7 *(a) MANUFACTURING EXTENSION PARTNERSHIP PRO-*  
 8 *GRAM.—There are authorized to be appropriated to the Sec-*  
 9 *retary of Commerce, or other appropriate Federal agencies,*  
 10 *for the Manufacturing Extension Partnership program*  
 11 *under sections 25 and 26 of the National Institute of Stand-*  
 12 *ards and Technology Act (15 U.S.C. 278k and 278l)—*

13 *(1) \$110,000,000 for fiscal year 2006, of which*  
 14 *not more than \$1,000,000 shall be for the competitive*  
 15 *grant program under section 25(e) of such Act (15*  
 16 *U.S.C. 278k(e));*

17 *(2) \$115,000,000 for fiscal year 2007, of which*  
 18 *not more than \$4,000,000 shall be for the competitive*  
 19 *grant program under section 25(e) of such Act (15*  
 20 *U.S.C. 278k(e)); and*

21 *(3) \$120,000,000 for fiscal year 2008, of which*  
 22 *not more than \$4,100,000 shall be for the competitive*  
 23 *grant program under section 25(e) of such Act (15*  
 24 *U.S.C. 278k(e)).*

1       (b) *COLLABORATIVE MANUFACTURING RESEARCH*  
 2 *PILOT GRANTS PROGRAM.*—*There are authorized to be ap-*  
 3 *propriated to the Secretary of Commerce for the Collabo-*  
 4 *rative Manufacturing Research Pilot Grants program*  
 5 *under section 33 of the National Institute of Standards and*  
 6 *Technology Act—*

7               (1) \$10,000,000 for fiscal year 2006;

8               (2) \$10,000,000 for fiscal year 2007; and

9               (3) \$10,000,000 for fiscal year 2008.

10       (c) *FELLOWSHIPS.*—*There are authorized to be appro-*  
 11 *priated to the Secretary of Commerce for Manufacturing*  
 12 *Fellowships at the National Institute of Standards and*  
 13 *Technology under section 18(b) of the National Institute of*  
 14 *Standards and Technology Act, as added by section 4 of*  
 15 *this Act—*

16               (1) \$1,500,000 for fiscal year 2006;

17               (2) \$1,750,000 for fiscal year 2007; and

18               (3) \$2,000,000 for fiscal year 2008.

19 **SEC. 9. TECHNICAL WORKFORCE EDUCATION AND DEVEL-**  
 20 **OPMENT.**

21       (a) *AUTHORIZATION OF APPROPRIATIONS.*—*There are*  
 22 *authorized to be appropriated to the Director of the Na-*  
 23 *tional Science Foundation, from sums otherwise authorized*  
 24 *to be appropriated, for the Advanced Technological Edu-*

1 *cation Program established under section 3 of the Scientific*  
 2 *and Advanced-Technology Act of 1992 (42 U.S.C. 1862i)—*

3 *(1) \$55,000,000 for fiscal year 2006, \$5,000,000*  
 4 *of which may be used to support the education and*  
 5 *preparation of manufacturing technicians for certifi-*  
 6 *cation;*

7 *(2) \$57,750,000 for fiscal year 2007, \$5,000,000*  
 8 *of which may be used to support the education and*  
 9 *preparation of manufacturing technicians for certifi-*  
 10 *cation; and*

11 *(3) \$60,600,000 for fiscal year 2008, \$5,000,000*  
 12 *of which may be used to support the education and*  
 13 *preparation of manufacturing technicians for certifi-*  
 14 *cation.*

15 *(b) AMENDMENT.—Section 3 of the Scientific and Ad-*  
 16 *vanced-Technology Act of 1992 (42 U.S.C. 1862i) is amend-*  
 17 *ed—*

18 *(1) by inserting “, including manufacturing”*  
 19 *after “advanced-technology fields” each place it ap-*  
 20 *pears other than in subsection (c)(2); and*

21 *(2) by inserting “, including manufacturing,”*  
 22 *after “advanced-technology fields” in subsection*  
 23 *(c)(2).*



Union Calendar No. 49

109<sup>TH</sup> CONGRESS  
1<sup>ST</sup> Session

**H. R. 250**

[Report No. 109-92]

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**A BILL**

To establish an interagency committee to coordinate Federal manufacturing research and development efforts in manufacturing; strengthen existing programs to assist manufacturing innovation and education, and expand outreach programs for small and medium-sized manufacturers, and for other purposes.

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MAY 23, 2005

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed